Ant Farm Analysis Area

Revised Environmental Assessment No. OR 090-EA-99-16

CONTENTS

1.0 PURPOSE OF AND NEED FOR ACTION

1.1 Introduction

The Bureau of Land Management (BLM) proposes to implement forest management activities in the McKenzie Resource Area. The area is approximately 15 miles southeast of Springfield, Oregon located in the Lost Creek Watershed Analysis Area. This watershed measures approximately 35,000 acres in size (BLM managed public land is about 13,500 acres or 39 percent of the area, and private land is about 20,800 acres or 59 percent of the area, with the remaining 2 percent USFS). The legal description for the proposed harvest activities is T. 19 S., R. 1 W., Section 31; T. 20 S., R. 1 W., Section 6 and T. 20 S., R. 2 W., Section 1 of the Willamette Meridian.

The Proposed Action includes a regeneration harvest on 26 acres of an approximately 67 year old stand, and commercial thinning on 52 acres of an approximately 54-56 year old extremely dense stand. These projects would also construct approximately 0.30 mile of temporary road. After harvesting activities approximately 0.30 mile of road would be blocked and decommissioned.

Timber harvesting would occur on land allocated as "Matrix" in the Northwest Forest Plan and the 1995 Eugene District Resource Management Plan (RMP). Matrix lands are those Federal lands outside areas identified in the Record of Decision (ROD) for the FSEIS with special restrictions because of other resource values. Portions of the Matrix are available for timber production and other silvicultural activities as long as the Standards and Guidelines included in the ROD are followed (U.S. Bureau of Land Management and U.S. Forest Service 1994, pp 7, 10, C-39).

The Ant Farm Analysis Area was previously analyzed in February, 1998 in EA No. OR 090-98-10. Since February 1998, Eugene District has developed guidelines for the management of Category 1, 2 and Protection Buffer species and has surveyed for these species within and adjacent to the Ant Farm Timber sale. The need for updating the original Environmental Assessment (EA) is (1) to describe the management recommendations for Category 1, 2 and Protection Buffer species, (2) to discuss the environmental impacts of the management recommendations on Category 1, 2 and Protection Buffer species and (3) to provide additional information and clarity for hydrology/water quality and soils regarding achieving the Aquatic Conservation Strategy (ACS) Objectives. The original need for action still applies.

1.2 Objectives:

- The proposed treatments would meet the following management objectives:
- Fulfill the BLM's mission and policy of providing wood products and jobs in the General Forest Management Area (Matrix) for Fiscal Year 1999.
- Increase the productivity of General Forest Management Area (GFMA) by thinning overstocked stands and regenerating mid-seral stands.
- Help the Eugene District meet its regeneration and commercial thinning harvest commitment for FY 1999.
- Decommission roads where habitat needs and road maintenance savings outweigh the needs for vehicular access for future management of the lands.
- Comply with the Standards and Guidelines in the Record of Decision (ROD) for the Northwest Forest Plan.

Informal conferencing (on the "Not Likely to Adversely Affect" proposed action) was completed on May 21, 1999 and a letter of concurrence from the National Marine Fisheries Service (NMFS) is in process.

Included as part of the Northwest Forest Plan are guidelines for the management of old-growth related species and the production of a sustainable level of timber. "Survey and mange" provides standards and guidelines to provide benefits to amphibians, mammals, bryophytes, mollusks, vascular plants, fungi, lichens and arthropods that are assumed to be old-growth associated species. The standards and guidelines contains four components (and protection buffer species), each with different priorities and species that they apply to. See the Standards and Guidelines for Management of habitat for late-successional and old-growth related species within the range of the Northern Spotted Owl for the lists of species that each component applies to. Components 1, 2 and Protection Buffer lists apply to the Eugene District. Surveys for Component 3 and 4 species are being done at a regional level by the Regional Ecosystem Office and do not presently apply at the District level. The Eugene District is required to manage known sites of the species on the Component 1 list. Surveying for these species is not required, however when one of these species is located, it becomes a known site. Component 2 species require surveys prior to ground disturbing activities and management of known sites. Protection Buffer species also require surveys prior to ground disturbing activities. These species are assumed to be rare and locally endemic. When located, occupied sites are to be managed for the benefit of the species.

1.3 Conformance

This EA is tiered to the Record of Decision (ROD) for *Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl*, April 1994, and the *Eugene District Record of Decision and Resource Management Plan* (RMP), June 1995. Actions described in this EA are in conformance with the Aquatic Conservation Strategy (ACS) Objectives listed on page B-11 of the Northwest Forest Plan (NFP) and in Appendix A of this EA. These documents are available for review at the Eugene District Office of the BLM, Eugene, Oregon.

The Analysis File contains additional information used by the interdisciplinary team (IDT) to analyze impacts and alternatives and is hereby incorporated by reference.

Plan maintenance documentation postponing surveys for 32 Component 2 and Protection Buffer species was recently completed ("Plan Maintenance Documentation, USDI Bureau of Land Management, To Change the Implementation Schedule for Survey and Manage and Protection Buffer Species," approved March 3, 1999). The Proposed Action and alternatives are in conformance with the direction provided in the Plan Maintenance Documentation. The implementation of the plan maintenance is provided for by BLM planning regulations (43 CFR 1610.5-4).

The effect of the plan maintenance action was analyzed in an environmental assessment, "To Change the Implementation Schedule for Survey and Manage and Protection Buffer Species," issued October 7, 1998 ("Schedule Change EA"). The analysis contained in the Schedule Change EA is incorporated into this document by reference. Both the Schedule Change EA and the Plan Maintenance Documentation are available for viewing at the Eugene BLM District Office or on the internet at http://www.or.blm.gov/nwfp.htm.

1.4 Scoping

The scoping process identified the agency and public concerns relating to the proposed projects and defined the issues and alternatives that would be examined in detail in the EA. The general public

was informed of the planned EA by the inclusion of this project in the Eugene District Planning Update. A copy of the scoping mailing list is in the Analysis file.

1.5 Identified Issues:

The revised EA identifies two new issues concerning Survey and Manage and Category 1, 2 and Protection Buffer Species.

1.5.1 Merchantable Timber Production and Productivity (Issue #1)

Emphasize production of merchantable timber from GFMA lands, while retaining some trees and snags for maintaining forest health, productivity, and biological diversity.

Increase the productivity of GFMA lands by thinning densely stocked stands.

Contribute to Potential Sale Quantity (PSQ) for McKenzie Resource Area.

Key Indicators: acres of regeneration harvest, acres of commercial thinning, estimated timber volume

1.5.2 Road Impacts on Sedimentation (Issue #2)

Timber harvest will alter habitat characteristics and the ecological function of these habitats. Temporary road construction will increase road activities.

Key Indicators: amount of road constructed in the Riparian Reserve, amount of temporary road construction

1.5.3 Category 1, 2 and Protection Buffer Species - Fungi, Bryophytes and Lichens (Issue #3)

Implementation of interim management recommendations.

Key Indicators: substrate integrity, microclimate

1.5.4 Category 1, 2 and Protection Buffer Species - Mollusks (Issue #4)

Implementation of interim management recommendations.

Key Indicators: Presence of big leaf maple, presence of down logs, canopy closure

1.5.5 Issues Identified but Eliminated from Analysis:

1.5.5.1 What are the impacts to 32 Survey and Manage and Protection Buffer Species.

No site specific surveys were completed for any of the 32 Component 2 or Protection Buffer species listed in the Schedule Change EA. Informal surveys for these species were conducted on some of the harvest areas before it was determined by an interagency team that is was not technically feasible to survey for these species. Individuals of *Ulota megalospora* and *Sarcosoma mexicana* were found, incidental to other surveys, and appropriate management actions would be implemented under all alternatives. However, it is possible that additional individuals may reside in the project area.

1.5.5.2 Threatened or Endangered Plant or Wildlife Species

T & E species were not found in or adjacent to the proposed harvest area.

1.5.5.3 Habitat Fragmentation

Edge effect impacts that would result from the proposed action would not impact or change wildlife trends.

Surrounding habitat, and riparian reserves are providing food, cover, and water resulting in upward trend in populations in big game.

1.5.5.4 Habitat Connectivity

Not a key concern because habitat connections would still be left in tact by the riparian reserves and adjacent uncut habitat.

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This section describes alternatives identified by the IDT, design features associated with these alternatives and detailed information can be found in the Ant Farm Analysis file.

2.1 Alternative I - Proposed Action

This proposed action involves two treatment areas. The first area (Unit 1) is a regeneration harvest in Section 31 and is an approximately 67 year old Douglas-fir stand. The second area is a commercial thinning in Sections 1 and 6 and is an approximately 54 - 56 year old very dense Douglas-fir/hemlock stand. Both of these areas are within the GFMA Land Use Allocation and are located away from LSR's. Unit 2 has a Connectivity Block (which is one of the building blocks for the District land Use allocations, and has a different management direction than the General Forest Management Land Use Allocation) on the adjacent NW section and the adjacent SE section. Connectivity Blocks provide habitat connectivity, along with Riparian Reserves. All adjacent Riparian Reserve areas retain interim widths for fish and aquatic habitats.

Regeneration harvest unit 1 would be leave-tree-marked for required snags (3.4 trees per acre; marked trees will be =>15 inches in diameter distributed across the diameter range), green tree retention trees (7 trees/acre averaged over the area; minimum diameter for trees scattered throughout the unit will be 14 inches; trees would be marked in all diameter classes and would mimic the diameter distribution in the stand), and coarse woody debris needs (purchaser select for 240 lineal feet per acre that must meet minimum standards of 20 inches at the large end by 20 feet long).

The management guidelines listed in Appendix B would be applied for Survey and Manage Component 1, 2 and Protection Buffer Species.

Below is a summary of the proposed acres involved, volume of timber and road construction.

Table No. 1 Summary, Proposed Action

(Unit No.), Type Yarding	Regeneration Harvest Acres	Thinning Acres	Total Volume (MBF)	(P) Road Construction (miles)	(T) Road Construction (miles)	Road Renovation & Improvement (miles)
(Unit 1 C/M	26	0	780	0	0.00	0
(Unit 2) M	0	52	520	0	0.30	0
TOTAL	26	47	1,300	0	0.30	0

MBF - Thousand board feet
C - cable yarding
M - machine yarding
P - permanent construction system road, rocked
T - temporary constructed road, decommissioned or full decommission after completion of timber sale contract

2.2 Alternative II - No Action

Since there would be no management of the timber resource proposed under this alternative no survey and manage species recommendations would be necessary. Another area would be proposed for forest management activities to meet the objectives of the GFMA as detailed in the Eugene District RMP.

Timber stands will continue to grow at natural rates. No timber harvest, or road management activities would occur. The No Action alternative would result in no direct, indirect or cumulative effects to Survey and Manage mollusks or Northern spotted owls.

Not harvesting timber would have no effect on the stream system and associated floodplains, nearby wetlands, water quality, or the existing sediment regime, and ACS Objectives 3, 4, 5, 6 and 7 would be met.

2.3 Alternatives Considered but Eliminated

- A regeneration harvest was considered on Unit 2. This proposal was eliminated from further consideration because of the age of the stand, stand density and the small tree diameter.

- Two other harvest units were considered under the original EA. These two units were moved to the Lost Creek analysis area EA No. OR 090-EA-98-20. The original Ant Farm EA contained three action alternatives, two of which considered access to the dropped units. Currently the dropped units are being considered for helicopter yarding in the aforementioned Lost Creek analysis area EA.

2.4 Design Features for the Action Alternative

The following project design features would be implemented in conjunction with the proposed action. Design features are procedures normally used to avoid or reduce environmental impacts, or are required standards and guidelines included in a timber sale contract.

- **Riparian Reserves** - Riparian Reserves would be left on all streams, wetlands, springs, and ponds in accordance with the Northwest Forest Plan and RMP Standards and Guidelines. The reserves would provide habitat for Special Status and other species. There would be no landing or road construction in the Riparian Reserves. Timber harvest activities would be conducted in the upland portion of selected sections of the Riparian Reserves. Each Watershed Analysis Unit has an associated site potential tree height based on inventory plots from within the watershed. The site potential tree height for the Lost Creek Watershed Unit is 180 feet. A one site tree height or 180 feet is considered Riparian Reserve for all non-fish bearing streams and two site tree heights or 360 feet is considered riparian for all fish bearing streams adjacent to the harvest areas.

- **Coarse Woody Debris Requirement** - All coarse woody debris present on the sites would be reserved, unless they create a hazard to logging operations. In addition, 240 lineal feet per acre of Class 1 and 2 material would be created in the regeneration harvest area. Retain large trees, downed wood and large stumps to provide inoculum and habitat for fungi, bryophytes and lichens. Creating coarse woody debris would provide future habitat for many non-vascular plant species.
- **Snag Trees** - Existing snags in the harvest areas were found to be below the minimum RMP/ROD standards to meet the 40 percent primary cavity nesting birds criteria. Future actions may include creation of hard snags and would be detailed in a future

Environmental Analysis.

- **Hardwoods And Minor Species** - Retain all Pacific Yew trees in the harvest areas. Retain hardwoods as habitat for *Ulota* megalospora and other epiphytics. All hardwood species (including big leaf maple and red alder) would be retained on the area in order to ensure biological diversity objectives are met, unless a safety hazard exists.

- *Sarcosoma mexicana* site in Unit 2 requires a 60 foot no entry buffer.

- Management activities would be altered according to RMP standards and guidelines if any cultural resources, Special Status Plants including Threatened and Endangered, Survey and Manage species, and Threatened and Endangered wildlife are found in or adjacent to the harvest areas.

- Areas yarded with ground-based equipment would follow "Best Management Practices" as described in the Eugene District RMP. Ground-based harvesting is not recommended on Klickitat soils found in Unit 1. Full suspension yarding would be required over the Klickitat soils.

- In Unit 2, log lengths would be limited to 40 feet in order to protect residual trees during yarding.

- The thinning prescription would initiate thinning from below, cutting suppressed, intermediate and some co-dominants.

- Yarding restrictions in Unit 2 during sap flow would be April 1st thru June 15th.

- Commercial thinning may be accomplished by a "**harvester processor**." This would save the existing snags in the thinning area.

- Apply the following operational restrictions and mitigation measures so harvest activities result in an insignificant (i.e. less than 1 percent per decade) growth-loss effect from soil compaction (2 percent or less of any treated area compacted after amelioration practices):

- (1a) Restrict machine cutting operations (feller bunchers and harvester processors) to slopes less than 35 percent to reduce the amount of soil disturbance. Some use of feller bunchers may be allowed on steeper portions as determined by the Authorized Officer in consultation with the Area Soil Scientist.

- (1b) Limit excavation on primary skid roads to a maximum cut of 2 feet and maximum length of 30 feet at any one location without the prior approval of the Authorized Officer.

- **Items 1a and 1b are written for scenario of ground based cutters followed by ground based yarding. If machine cutting operations are followed by cable yarding these two criteria become somewhat less applicable.

- (2a) Ground based cutting and/or yarding operations will be restricted to seasonally dry periods when soil moisture levels are less than 25 percent, as approved by the Authorized Officer, and during which puddling and shearing can be avoided.
- (3a) Preplan such that primary travelways (skid trails) will cover less than 10 percent of the ground based harvest area. Any route where machines make multiple passes (2 or more) is considered "primary" and applies towards this 10 percent rule.

- (3b) Obtain approval from the Authorized Officer of the location of all primary/designated travelways (skid trails).

- (3c) Limit the width of each primary travelway (skid trail) to 14 feet.

- (3d) Feller buncher or harvester processor movement away from primary trails will be limited to a single pass, throughout the ground based harvest area as directed by the Authorized Officer.

- (3e) Direct the operator to cross the unit as efficiently as possible in order to minimize the length of primary trails (3a), and to limit the number of passes over the same area to one time when operating off the primary trails (3d).

- (3f) Keep ground based cutting machines (feller bunchers and harvester processors) moving on top of slash whenever possible. This is especially critical when soils are heavy in clay (Honeygrove soils in Unit 2), and/or when working soon after a rainy period.

- (4a) Till all skid trails and primary travelways with a winged subsoiler as soon as possible after cutting and yarding, when soil moisture conditions are 25 percent or less, or as approved by the Authorized Officer in consultation with the Soil Scientist.

- Falling and yarding requirements: directional falling and yarding would be utilized for the protection of retention trees, snags, and reserve areas.

- Adjust timber harvesting boundaries to exclude all fragile-nonsuitable and withdrawn areas from the harvest area. Fragile-Nonsuitable areas include sites with shallow, rocky soils, potentially unstable slopes, and wetlands. Reforestation withdrawn areas include sites with excess surface rock.

- Apply the following operational restrictions and mitigation measures so harvest activities result in an insignificant (i.e., less than 1 percent per decade) growth-loss effect from soil compaction (2 percent or less of any treated area compacted after amelioration practices):

- Restrict ground-base yarding operations to slopes less than 35 percent to reduce the amount of soil disturbance.

- Restrict yarding to seasonally dry periods when soil moisture levels are less than 25 percent, as approved by the Authorized Officer, and during which puddling and shearing can be avoided.

- Preplan and designate all skid trails to occupy less than 10 percent of the harvest area. Require felling of trees to lead to the skid trails, maximize winching distances up to 100 feet, and the distances between trails up to 200 feet where feasible. Use existing skid trails wherever possible.

- Till all skid trails with a winged subsoiler as soon as possible after yarding, when soil moisture conditions are 25 percent or less, or as approved by the Authorized Officer in consultation with a Soil Scientist.

- To minimize loss of soil productivity and reduce the potential for surface erosion and run-off during yarding:

- Lead-end (front-end) suspension is required for logs above the ground during yarding wherever topography permits, and especially when yarding over rocky, erodible soils, i.e., **Klickitat** series.

- Full suspension of logs should be required on the south and southeast portion of Unit 1 within the TPCC classified area FG-FS-R. This area should not be burned following harvest, in order to maintain organic matter.

- All adjacent Riparian areas retained interim widths for fish and aquatic habitats as defined in NFP ROD.

- Block all natural surfaced roads to vehicle access following both temporary and permanent shut-down of harvest activities.

- There would be a seasonal restriction between March 1 and June 30 (or later if deemed necessary by a wildlife biologist) if spotted owls are nesting within 0.25 mile (or further if deemed necessary by a wildlife biologist) of the unit. No activities would be allowed within 0.25 mile of the nest during this time.

- Future stocking of regeneration harvest Unit 1 would be planted with Douglas-Fir and some red cedar (through planting and seeding-in of natural seedlings).

- In Unit 1 approximately 50 percent of the wildlife trees would be left in clumps up to 40 trees or less. The remaining 50 percent should be scattered throughout the unit.

2.5 Post Harvest Activities

- **Site Preparation and Hazard Reduction** - The regeneration harvest area would be excavator piled on approximately 15 acres in areas that are <40 percent. On ground too steep for excavator, handpile, cover and burn (or swamper burn) on approximately 11 acres. Approximately 10 percent of the excavator piles would not be burned, but saved for wildlife habitat.

  Landing debris remaining after logging would be made available for special forest products sales if access is not blocked by road and skid trail mitigation.

- **Silvicultural treatments** - Planting goals for regeneration area would be to have approximately 280 well spaced conifers per acre at age 20 and, of the conifers, approximately 10 percent would be minor conifer species at age 20. An estimated 400 to 500 conifer seedlings per acre would be planted. Minor conifer species would represent 10 percent of the planting stock, if available. The hemlock and cedar that are left as retention trees would also serve as local seed source for minor species. The stand would be precommercially thinned at age 15 if they become overstocked; this would also be an opportunity to adjust species composition.

- **Road Reclamation and Closure** - Unit 2 would have a temporary natural spur road that would be blocked and decommissioned.

2.6 Monitoring

Monitoring guidelines are established in the 1995 FRMP/ROD, pp. 175, and the 1994 Standards and guidelines, pp. E-1 to E-10.

Table 2 Comparison of Alternatives

Indicators	Alternative 1 Proposed Action	Alternative 2 No Action
Merchantable Timber and Productivity (Issue #1)		
Acres of Regeneration harvest	26	0.00
Acres of Commercial Thinning	52	0.00
Estimated Timber volume (MBF)	1,300	0.00
Road Impacts on Sedimentation (Issue #2)		
Amount of Temporary Road Construction (miles)	0.30	0.00
Amount of Temporary Road Construction inside the Riparian Reserves (miles)	0.00	0.00
Total Open Road Density (miles / square miles)	Sec. 31 = 3.9 Sec. 1 = 4.3	Sec. 31 = 3.9 Sec. 1 = 4.3

3.0 AFFECTED ENVIRONMENTS

3.1 Vegetation:

Harvest Unit 1 is a Douglas-fir forest approximately 67 years old. The understory is sparse with some chinquapin, hazel, vine maple, madrone, sword fern, and some poison oak on dryer sites. Sword fern grows near riparian zones and on the lower portion of the east slopes, along with big-leaf maple, salmonberry, and large down woody debris is evident. Unit 1 has both south and north aspects, with the southern aspects being dryer. The south facing slopes are noted for moisture limiting during late summer months. Overstory vegetation includes Douglas-fir, hemlock, cedar, maple and madrone. Understory is sparse with chinquapin and ocean spray in the dry south facing areas. Near riparian zones and lower portion of the east slopes there are sword fern, big leaf maple, and salmonberry. Parts of this area have been precommercially thinned in the past. *Orobanche pinorum,* a special status species was located north of Unit 1 on the edge of an old skid road and is not in the harvest area.

Harvest Unit 2 is on a broad, dry, flat ridge line with three age classes of Douglas-fir and some older residual trees, predominately 54 - 56 year old Douglas-fir and Western hemlock, with some Western red cedar. The stand is either very thick, closed canopy forest with little understory and lots of down woody debris or more open with dense salal understory. Rhododendron is prominent along with madrone, alder, chinquapin, and Western red cedar.

There are no special habitat areas within the proposed harvest areas. Some meadows and rock outcrops adjacent to Unit 1 were previously withdrawn from any harvest activity because of shallow soils. An ash swale adjacent to Unit 1 is buffered in accordance with the District ROD/RMP.

3.2 Wildlife:

Old Growth Habitat - There are no old growth stands or patches within the harvest area.

Wildlife Use - The two proposed harvest areas have canopy closure exceeding 60 percent and often reach 100 percent which allows very little ground vegetation. Stands of this type are used by approximately 36 species of wildlife for the primary purposes of feeding and/or breeding. An additional 92 species of wildlife are known to use stands of this type secondarily for feeding and/or breeding.

Northern Spotted Owl

Unit 1
Unit 1 is currently dispersal habitat for Northern spotted owls (NSOs). There is no known spotted owl activity within this unit, but there is an historic NSO activity center within 0.1 mile of this unit. This activity center has not had recorded activity since 1995. There is an approximately 100 acre NSO core area within 0.3 mile of Unit 1. This core has been administratively withdrawn from the timber base under the RMP. Current indications are that this core area has been abandoned by the owls. This pair have been using an area approximately 0.5 mile away from the core since 1996. This new activity center is approximately 1.0 mile from Unit 1.

Unit 2
Unit 2 is currently dispersal habitat for NSOs. There is no known spotted owl activity within the unit, but the NSO administratively withdrawn core area discussed under Unit 1 is within 0.6 mile of this unit. The current activity site for these owls is more than 1.0 mile from Unit 2.

No unique or special habitat areas exist in any of the potential harvest areas.

3.3 Survey and Manage Species

3.3.1 Fungi, Bryophytes and Lichens

Surveys for vascular survey and manage species were done during the 1997 and 1998 field season as part of surveys for special status vascular plants. The vascular plant surveys for Unit 1 encompassed a larger area than the area of the proposed action in this document.

Surveys for non-vascular Survey and Manage (Component 2 and Protection Buffer) were done during the summer of 1999. *Ulota megalospora* (Protection Buffer, moss) was found on all units. *Sarcosoma mexicana* (Protection Buffer, fungi) was incidentally found in Unit 2 and just outside of Unit 1. The Unit 1 site is no longer part of the project area and the Unit 2 site would be buffered. Survey and Manage, Component 1,3, or 4 species were not specifically searched for. When Component 1 species are found incidentally (often in the course of other work), they are sent to regional experts for verification.

3.3.2 Mollusks

Typical key habitat features for the three Survey and Manage mollusk species found in the proposed project area include hardwoods (especially big leaf maples), down woody debris, leaf litter, sword fern and moist microclimates. Mollusk locations within Ant Farm Timber Sale units have been identified and will be managed using the treatments detailed in the Proposed Action.

Unit 1 (Regeneration)
One *Prophysaon coeruleum* (PRCO) site was located in Unit 1. This site qualifies as Treatment Level 2. It would be managed using a 0.75 acre buffer because it is in a regeneration unit where canopy cover would fall below 40 percent. Table 3 identifies how this treatment would be applied.

Table 3. Mollusk site management recommendations for Ant Farm Timber sale Unit 1.

Species	**Plot No.**	**Location**	**Management Recommendation**	**Buffered Acres**
PRCO	KSN-0064	In unit	0.75 acre buffer	0.75 acre
				Total 0.75 acre

Unit 2 (Thinning)
One *Prophysaon dubium* (PRDU) and six *Prophysaon coeruleum* (PRCO) locations were detected during surveys of this area. There was an additional site located that contained both PRCO and PRDU. The PRDU site and the site with both PRDU and PRCO qualify for Treatment Level 2, so one of these two sites would be buffered.

The buffered site would have a 0.25 acre buffer because it is within a unit where post-harvest canopy closure would be greater than 40 percent. All sites that have only PRCO qualify as Treatment Level 1 and would require no buffers. Table 4 identifies how these treatments would be applied to Ant Farm Timber Sale Unit 2.

Table 4. Mollusk site management recommendations for Ant Farm Timber sale Unit 2.

Species	**Plot No.**	**Location**	**Management Recommendation**	**Buffered Acres**
PRCO	KSN-0059	In unit	No buffer required	0
PRCO	KSN-0060	In unit	No buffer required	0
PRCO	KSN-0061	In unit	No buffer required	0
PRCO	KSN-0062	In unit	No buffer required	0
PRCO	CJM-0113	In unit	No buffer required	0
PRCO	CJM-0115	In unit	No buffer required	0
PRCO & PRDU	KSN-0091	In unit	0.25 acre buffer *	0.25
PRDU	KSN-0063	In unit	No buffer required	0
				Total 0.25 acres

* One PRDU site requires buffer. If the site recommended in Table 2 presents logistical difficulties, the other PRDU site may be buffered instead.

3.4 Soils:

Soils in the project area are of the Klickitat, Peavine, Bellpine and Honeygrove series, and all are suitable for timber production and harvesting. Harvesting on the Peavine, Bellpine, and Honeygrove soils can be conducted using either cable or ground-based logging systems, subject to soil moisture restrictions. Klickitat soils are suitable for cable logging systems (rather than ground-based) to avoid soil compaction that could not be ameliorated.

These soils would be classified as having high to moderate resiliency, i.e. they are productive soils which can sustain some manipulation and still maintain nutrient capital, inherent physical and chemical capabilities, hydrologic function, and

natural rates of erosion. In turn, these soils have a high potential for vegetative restoration. Their high soil strength and permeability also makes them resistant to surface erosion, even when the surface vegetation is removed. However, once compacted, the fine-textured clayey soils are easily eroded and suspended in runoff. For details on the distribution of these soil types in the project area, refer to the Soil and Water Resource Report in the analysis file.

Two areas with shallow soils having potential for surface erosion were identified on the southern edge of Unit 1. No other fragile sites were identified.

3.5 Hydrology:

3.5.1 Streams - All field identified streams in or adjacent to the proposed timber harvest area is shown on Map No. 1. There is one fish bearing stream and six non-fish bearing streams. These water resources would be protected under the establishment of interim Riparian Reserves, consistent with the Forest Plan Standards and Guidelines. No water resources were found within or adjacent to Unit 2. Refer to the Soil and Water Resources Report in the analysis file for further information.

3.5.2 Other Water Resources - Three small wetlands (each less than one acre) and one spring located adjacent to Unit 1. These water resources would be protected under the establishment of interim Riparian Reserves, consistent with the Forest Plan Standards and Guidelines.

3.5.3 Beneficial Use - The streams associated with the harvest areas are tributaries of Anthony Creek, which is a fish bearing tributary of Lost Creek. Identified beneficial uses of water are: aesthetics, resident fish and aquatic life, salmonid spawning and rearing (i.e. cutthroat trout), fishing, and water supply.

District policy is to prevent the acceleration of the natural rate of occurrence of landslides and debris torrents to the degree that these events would significantly degrade fishery resources, domestic or agricultural water supplies, or other designated beneficial uses of water. Based on reconnaissance level field investigations, the proposed harvest area is considered to have low potential for mass wasting. No slope stability concerns relative to the proposed harvest or road related activities were identified.

3.6 Fisheries:

In Unit 1 approximately 1,500 feet of Anthony Creek flows adjacent to the southern portion of Unit 1 of this harvest area. Anthony Creek is a fourth order tributary to Lost Creek, which is a large tributary of the Middle Fork Willamette River. The Lost Creek watershed analysis identifies the portion of Anthony Creek near the sale area as fishbearing for cutthroat trout. Fish population surveys conducted in Anthony Creek during the summer of 1991 by the BLM found cutthroat trout, speckled dace, cottids, and Western brook lampreys. In-stream habitats for this reach consist mainly of pools and low gradient riffle/rapids. Habitat complexity and available large woody debris (LWD) were considered to be in sufficient quantity and quality for this reach of Anthony Creek.

Tributary 1 is a first order, non-fish bearing tributary of North Fork Anthony Creek. Cutthroat trout are known to inhabit the North Fork of Anthony Creek (see attached map).

4.0 ENVIRONMENTAL CONSEQUENCES

This Chapter incorporates the analysis of cumulative effects in the *USDA, Forest Service and the USDI, Bureau of Land Management Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Related Species Within the Range of the Northern Spotted Owl*, February 1994, (Chapters 3 & 4) and the *Eugene District Proposed RMP/EIS*, November, 1994 (Chapter 4). These documents analyze most cumulative effects of timber harvest and other related management activities. Neither of the alternatives in this proposal would have cumulative effects on resources beyond those effects analyzed in the above documents. The following analysis includes cumulative effects that supplements those analyzed in the above documents, and provides site-specific information and analysis particular to the alternatives considered here. Aquatic Conservation Strategy Objectives are listed in Appendix A.

4.1 Alternative I - Proposed Action

4.1.1 Merchantable Timber Production and Productivity (Issue #1)

Emphasize production of merchantable timber from GFMA lands, while retaining some trees and snags for maintaining forest health, productivity, and biological diversity.

This alternative would provide an estimated timber volume of 1,300 MBF, which would contribute to the Resource Area's decadal PSQ commitment.

Approximately 26 acres would be regeneration harvested providing approximately 780 MBF. Commercial thinning would take place on 52 acres generating 520 MBF.

4.1.2 Road Impacts on Sedimentation (Issue #2)

Timber harvest will alter habitat characteristics and the ecological function of these habitats. Temporary road construction will increase road activities.

Hydrology/Water Quality
The proposed new temporary construction would not cross any streams so channel configurations would be maintained (meets ACS Objective #3). Use of existing permanent roads to harvest Unit 1 and fully decommissioning the temporary road constructed in Unit 2 would have no impact on water quality. Reviewing the proposed haul route, and adding cross drains if needed, would play a role in contributing to a reduction in road related runoff and sediment delivery in the basins. These road prescriptions would fully meet the intent of ACS Objectives #4 and #5. Soil compaction from ground based harvesting would be mitigated by tilling, preventing overland flow during larger runoff events (meets ACS Objective #5).

Unit 1 (regeneration harvesting) is completely within the rain dominated zone and Unit 2 (thinning) is completely within the transient snow zone. Proposed harvesting of both units is not expected to impact peak flows under normal storm conditions. Under unusual storm conditions where there are warmer winter temperatures, higher wind velocities, and a deeper snow pack, peak flows in Anthony Creek could increase 0.6 percent as a result of harvesting operations. Peak flows in Middle Creek could increase about 1.4 percent after harvesting. The change in water available for runoff for this proposed action is considered to be a low risk for increased flood damage or bed scour because it falls well below the 10 percent threshold where notable impacts on channel stability begins to

occur (Washington Forest Practices Board, C-40). The potential slight increase in peak flow is considered a short-term impact until the canopy grows back together. Establishing interim Riparian Reserves around all streams would protect the timing and magnitude of peak flows and ACS Objective #6 would be met.

ACS Objective #7 would be met because (1) wetlands adjacent to Unit 1 would be protected by establishment of Riparian Reserves, and (2) the timing, variability, and duration of floodplain inundation would be unaffected by harvest activities.

Cumulative Effects
The Lost Creek WA indicated that erosion from roads has increased sediment production over natural levels in both the Anthony Creek and Middle Creek subbasins. The application of ROD/Standards and Guidelines and BMPs associated with road construction, repair, and decommissioning should minimize the sediment generated under this harvest proposal and would fully meet ACS Objectives as described above.

New tree growth would result in canopy closure, and any changes in hydrologic processes as a result of timber harvesting would gradually diminish over time. No cumulative effects are anticipated under normal storm conditions. If harvesting these units were conducted at the same time of harvesting units of the proposed Lost Creek sales, flows during unusual storm conditions in Anthony Creek could increase as much as 2.9 percent than under current conditions. This would be a short term impact and is not expected to affect channel stability. No other harvesting is planned in the Middle Creek basin and consequently no cumulative effects would be anticipated there.

Soils

Impacts to soils from commercial thinning activities would be in the form of soil compaction, soil and litter displacement, and loss of organic material due to harvesting. This would result in a loss in soil productivity by impacting soil organic matter and nutrient levels, and processes within the soil organism communities. Cable yarding systems would result in approximately 2 percent or less of the harvest area left in a compacted condition, a level within our District standards for achieving insignificant growth-loss effect. The residual effect of the soil compaction in the skid trails will remain on the site for 10 to 35 years, depending upon the depth of compaction within the trails.

Ground-based harvesting would result in more area impacted by skid trails (up to 10 percent vs. 2 percent). As long as the required moisture restrictions are utilized, the resulting compaction from ground-based harvesting could be mitigated by subsoiling all skid trails or compacted areas, thus achieving insignificant growth-loss from compaction.

Cumulative Effects
Existing roads used for harvesting Unit 1 have identified future needs. Planned road construction and road decommissioning in Unit 2 would result in no increase in the area permanently converted to road surface. Tilling the road would improve recovery of these soils followed by blocking to prevent vehicle access.

Requiring lead-end suspension during cable yarding and the use of appropriate seasonal, soil moisture and slope restrictions during ground-based yarding operations should result in insignificant growth-loss effects.

4.1.3 Category 1, 2 and Protection Buffer Species - Fungi, Bryophytes and Lichens (Issue #3)

Bryophytes

Ulota megalospora (Protection buffer moss)

Direct impacts to sites include: direct physical disturbance from harvesting and related activities to individual organisms and/or disturbance of substrate. However, individuals on hardwoods would not be directly impacted as these trees would be retained.

Indirect impacts include drying of substrate and increased light to individuals due to loss of forest canopy and alterations in local hydrology. *Ulota megalospora* "can tolerate drier conditions overall than bryophytes found lower in the canopy and in the understory and may have a higher light requirement." (1996 Draft Management Recommendations for Bryophytes, Installment 1, pp. 18:3-6) In dense young Douglas-fir stands, *Ulota* typically occurs in the drier portions of the stands such as openings in uplands and on south slopes. *Ulota* occurring in closed canopy Douglas-fir stands may be enhanced by increased light and drier conditions of a thinning harvest.

Short term, *Ulota* populations would probably initially decrease due to the change in conditions. Once individuals recovered from the change in conditions, the long term effects would be the number of individuals in the stand (individuals on the remaining trees would remain the same and may increase due to the drier conditions and increased light). It is assumed that *Ulota* would increase as the species prefers stands that do not have closed canopies, have increased light and drier conditions.

Cumulative effects would be an increase in *Ulota* across the landscape as conditions for it improve. As a pioneer species, it would come into stands as conditions are created.

Fungi

Management recommendations for *Sarcosoma mexicana,* from the ROD " this mushroom occurs in deep conifer litter layers in older forests. It is uncommon to rare and is found in the Oregon and Washington Coast Range into British Columbia". Mitigation activities include surveying for locations and protecting deep litter layers of older forests where found. Defer prescribed burning of understory or other activities which would not retain a deep layer. The implementation schedule for this species is the same as for survey and manage component 3 (conduct extensive surveys and manage sites). At present, protection of all *Sarcosoma mexicana* sites is required. Management recommendations for this species follow the "Draft Sarcosoma mexicana Protection Buffer rationale for the Eugene District" (January 11, 1999). As such, a circular no-entry buffer 60 feet in radius is recommendation for the *Sarcosoma mexicana* site. This site is located near the unit boundary, on a gentle slope, in concave topography. Guidelines suggests a 60 foot buffer in this case. There are also 5 other project areas containing *Sarcosoma mexicana* in the Lost Creek watershed.

Lichens

Lobaria pulmonaria, a Component 4 lichen occurs in the project areas, while no protection is required for these species, there would be impacts to this species. Direct impacts to sites include: direct physical disturbance from harvesting and related activities to individual organisms and/or disturbance of substrate. However, individuals on hardwoods would not be directly impacted as these trees would be retained. Indirect impacts include drying of substrate and increased light to individuals due to loss of forest canopy. Long term effects of increased light to lichens (that have grown in closed canopy) has been seen to

cause increased production of melanin, which then lowers the amount of propagules produced, resulting in less reproduction by those individuals.

Short term affects could be a decrease in population, due to loss of individuals on harvested trees and shrubs damaged by harvest but as the retention trees and hardwoods respond and as the canopy closes again, populations could increase to preharvest levels. Long term effects on lichens could be a shift in community composition to initially favor early seral species or species tolerant to disturbance with typical succession occurring as the canopy closes. Cumulative effects (of shorter rotation) could be a reduction in species diversity as the species that require longer times to reestablish after disturbance would not have the length of time they need to reestablish.

Little is known about the effects of harvest on bryophytes, lichens and fungi. For the species that form mycorhizzal relationships with trees or are epiphytic, removal of these trees would be detrimental to the individual organisms dependent on them.

4.1.4 Category 1, 2 and Protection Buffer Species - Mollusks (Issue #4)

Unit No. 1
The only known mollusk site within Unit 1 would be buffered. This site would not be directly affected by the proposed project as no activity would be allowed within the buffer. This site could be indirectly affected by the regeneration harvest outside of the buffer area. Regeneration outside of the buffer could make the trees remaining within the buffer more susceptible to being windthrown. Windthrow of trees within the buffer area could substantially alter the microclimate for mollusks. Severe alterations of the microclimate within the buffer could make it unsuitable for these mollusk species.

There could be mollusk locations that were not identified in this unit during survey efforts. Up to three big leaf maples per acre would be retained in units unless there is a safety concern. Big leaf maples retained outside of buffered areas may provide suitable habitat for these mollusk species, but it is likely that the microclimate under these trees would not be suitable for mollusks after regeneration harvest. Most mollusk habitat outside of the buffered area would not be viable following harvest until trees become re-established.

Unit 2
The PRDU site that would be buffered would not be directly affected by the proposed project as no activity would be allowed within the buffer. This site would not be indirectly affected by the thinning outside of the buffered area because the proposed thinning would leave sufficient tree canopy (>60 percent) to maintain the microclimate within the buffered areas.

One of the two PRDU sites would not be buffered because this species qualifies for Treatment Level 2 under the District guidelines. None of the six PRCO sites in the unit would be buffered because this species qualifies for Treatment Level 1. There could also be mollusk locations that were not identified in units during survey efforts. Mollusks and their habitat within these areas could be damaged or destroyed in the short term. Even if these areas suffer short term damage, they should still provide suitable habitat over the long term as long as down logs and live trees remain. Mollusks that persist in buffered areas should be available to recolonize uninhabited areas

when they become suitable again.

Cumulative Effects
Evidence from Eugene District surveys suggest that Survey and Manage mollusk species are currently well distributed across District lands. The Eugene District interim guidelines are intended to maintain the viability of local populations of these species. This strategy is currently being followed for all Eugene District BLM projects involving ground disturbing activity. Although the proposed action would damage or eliminate some mollusk sites, the local population and the populations across the Eugene District would remain viable.

There are no protections for these species on private property that is interspersed with BLM land, so populations of these species on private lands could be at risk for reduction and extirpation. The long term effects this would have on these species across Eugene District lands is unknown.

Summary of Cumulative Effects on Mollusks, Fungi, Bryophytes and Lichens

An estimated 5,800 acres of the Federal administered lands in the watershed are forested similarly (40-80 years old, additionally 2,370 acres are 80+ years) to those affected by the proposed action. An estimated 5,960 acres of the watershed is less than 40 years old, resulting from previous regeneration harvests.

The Proposed Action (regeneration harvest and commercial thinning) would affect 1.25 percent of the 40-80 year old stands. Cumulatively, with other projects BLM has proposed in the Lost Creek basin 14 percent of the 40-80 year old stands would be affected, principally by commercial thinning.

An estimated 6,400 acres of the forests are in Riparian Reserves and are well-distributed across the watershed. These areas would provide continuity of habitat over time as similar proportion of age classes would be maintained across the watershed.

The management buffers at each site, unthinned Riparian Reserve, unmapped LSRs, District Designated Reserves and other areas deferred from harvest would provide refuge for these species and, if individuals do not tolerate the harvests, the refuge would provide a potential source population to recolonize the harvested areas.

4.2 Alternative II - No Action

4.2.1 Merchantable Timber Production and Productivity (Issue #1)

Under this alternative, no management activities would take place within the analysis area at this time.

No volume from this area would contribute to the decadal PSQ for the Resource Area.

Another analysis area would be proposed for timber sale planning to meet the objective of timber harvest in the Matrix in accordance with the Northwest Forest Plan and the GFMA harvest goals of the RMP.

This proposed analysis area would continue to focus growth on the dominant and co-dominant trees while the suppressed trees would continue to stagnate and die. Growth rates on all trees will be less than if a partial harvest is conducted. An opportunity to harvest the future mortality would be foregone. Stand densities would remain high, resulting in the continued demand and competition for limited amounts of sunlight, moisture and nutrients. There are only so many trees that a site can sustain. Once this

limit is reached, natural controls would take effect. Epidemic levels of insects, disease, and severe fire behavior are likely.

4.2.2 Road Impacts on Sedimentation (Issue #2)

Hydrology/Water Quality
Not harvesting timber would have no effect on the stream system and associated floodplains, nearby wetlands, water quality, or the existing sediment regime, and ACS Objectives 3, 4, 5, 6 and 7 would be met.

Cumulative Effects
Opportunities to improve drainage on existing roads would be postponed to a later date.

Soils
In comparison with the Proposed Action, no harvesting would not interrupt existing conifer-soil organism nutrient relationships. No soil compaction or soil displacement would be incurred since no harvesting or road construction would be conducted.

Cumulative Effects
None.

4.2.3 Category 1, 2 and Protection Buffer Species - Fungi, Bryophytes and Lichens (Issue #3)

Forest succession would continue. Old-growth dependent species would likely increase as the characteristics they require developed.

4.2.4 Category 1, 2 and Protection Buffer Species - Mollusks (Issue #4)

The No Action alternative would result in no direct, indirect or cumulative effects to these Survey and Manage mollusks.

5.0 OTHER ENVIRONMENTAL EFFECTS COMMON TO ALL ACTION ALTERNATIVES

5.1 Effects on Fisheries and Riparian Resources

No detrimental cumulative effects to downstream fisheries resources are expected from any of the Action Alternatives. The establishment of interim Riparian Reserves described in the ROD/Standards and Guidelines (pg. 23-24) on all streams found adjacent to the proposed harvest area would be adequate to protect RR resources.

5.2 Prime Farmland and Rangeland

There is no prime farmland or rangeland within the Federal ownership of the proposed harvest units.

5.3 Wetlands and Flood Plains

The proposed timber sale would not have any adverse impacts on flood plains downstream from the Proposed harvest Area. None of the Alternatives would have adverse effects on nearby wetlands.

5.4 Recreation

The proposed sale would not have any adverse effects on the dispersed recreational opportunities existing in the project area. Proposed road closures and decommissioning affect only temporary roads and would not affect future vehicle access opportunities into these sections of land. The proposed harvest areas are subject to the Visual Resource Management (VRM) Class IV management prescription under the 1995 Eugene District Record of Decision and Resource Management Plan. The treatments proposed for the Ant Farm timber sale are consistent with this management prescription. There are no Wilderness Areas, Roadless Areas, Wild and Scenic rivers in or adjacent to the analysis area.

5.5 Sensitive Plant Survey

Surveys for vascular survey and manage species were done during the 1997 and 1998 field season. No Survey and Manage vascular plants were found within or adjacent to the harvest areas.

5.6 Threatened and Endangered Species

Spring chinook salmon in the Upper Willamette River basin are listed Threatened under the ESA. Informal conferencing (on the "Not Likely to Adversely Affect" proposed action) was completed on May 21, 1999 and a letter of concurrence from the National Marine Fisheries Service (NMFS) is in process.

Protocol surveys have been conducted for the Northern Spotted Owl (NSO) in the analysis area. Unit 1 is currently dispersal habitat for Northern spotted owls (NSOs). There is no known spotted owl activity within this unit, but there is an historic NSO activity center within 0.1 mi of this unit. This activity center has not had recorded activity since 1995. There is an approximately 100 acre NSO core area within 0.3 mile of Unit 1. This core has been administratively withdrawn from the timber base under the RMP. Current indications are that this core area has been abandoned by the owls. This pair have been using an area approximately 0.5 mile away from the core since 1996. This new activity center is approximately 1.0 miles from Unit 1. Unit 2 is currently dispersal habitat for NSOs. There is no known spotted owl activity within the unit, but the NSO administratively withdrawn core area discussed under Unit 1

is within 0.6 mile of this unit. The current activity site for these owls is more than 1.0 mile from Unit 2.

Regeneration harvest (Unit No. 1) would remove approximately 26 acres of dispersal habitat for spotted owls. This habitat would not qualify as dispersal habitat again for at least 40 years. Consultation with Fish and Wildlife Service is generally done annually on a programmatic basis for all projects that would modify habitat for Threatened and Endangered (T & E) species in the Willamette Province.

Thinning Unit 2 would degrade 52 acres of dispersal habitat for spotted owls immediately after harvest. After several years the canopy would start to close and the habitat would improve.

The Biological Assessment that includes this project stated that the habitat modification projects on the Willamette Province that year would result in a "may affect likely to adversely affect" determination to spotted owls and their habitat.

5.7 Hazardous Materials Survey

There are no Hazardous Materials at this time in the analysis area.

5.8 Cultural Resources

No cultural sites have been identified. The analysis file contains the cultural report.

5.9 American Indian Rights

No impacts on American Indian social, economic or subsistence rights are anticipated. No impacts are anticipated on the American Indian Religious Freedom Act. Management action information is sent to the Confederated Tribes of the Grand Ronde and Confederated Tribes of the Siletz.

6.0 LIST OF AGENCIES AND PERSONS CONSULTED

This Environmental Analysis is being mailed out to 22 members of the general public and organizations. A letter was sent out to the adjacent land owner in February 1997 which identified specific areas being considered, project issues, and time lines for providing input. Also a summary was sent to those receiving the "Eugene BLM Planning and Project Focus" Winter/Spring 1997 (approximately 250 mailings, a complete listing is available at the Eugene District Office).

Maps of the proposed harvest areas were sent to the Confederated Tribes of Grand Ronde and Confederated Tribes of Siletz, no comments were received.

7.0 LIST OF PREPARERS

THE INTERDISCIPLINARY TEAM

Each member has reviewed this EA and concurs with its contents.

NAME	TITLE	RESOURCE/DISCIPLINE
Cheshire Mayrsohn	Botanist	Botany
Paula Larson	Wildlife Biologist	Wildlife Habitat
Kris Ward	Hydrologist	Soil/Water Resources
Phil Dills	Fuels Mgt. Specialist	Fuels
Dave Reed	Fuels Mgt. Specialist	Fuels
Mike Southard	Archaeologist	Archaeology
Fred Kallien	Sivilculturist	Silviculture
Mike McKay	Biological Technician	Fisheries
Mike Sabin	Forester	Engineering
Glen Gard	Haz/Mat Coordinator	Hazardous Materials
Don Wilbur	Natural Res. Spec.	Team Facilitator
John Chatt	Biologist	Wildlife
Jack Zwiesler	Forester	EA Writer/Team Lead

The Finding of No Significant Impact (FONSI) is not a decision document. Its purpose is to state that the actions proposed do not have a significant effect on the environment and that an EIS is not needed according to information contained in the EA and other available information. The unsigned FONSI is sent out with the EA to let you know that we feel that our actions do not warrant an EIS.

Finding of No Significant Impact
ANT FARM TIMBER SALE
EA OR 090-99-16

The Interdisciplinary Team for the McKenzie Resource Area, Eugene District, Bureau of Land Management has completed an Environmental Assessment (EA) and analyzed a proposal to harvest Federal forest in the Ant Farm Timber Sale units. The Ant Farm Sale Area is located approximately 15 miles southeast of Springfield, Oregon in T. 19 S., R. 1 W., Sections 31; T. 20 S., R. 2 W., Section 1 and T. 20 S., R. 1 W., Section 6, W.M. The proposal is a regeneration harvest and a commercial thinning involving the removal of timber from the General Forest Management Area (Matrix).

The proposed harvest would provide jobs and supply wood products. In order to ensure biodiversity is maintained within the project area, snags and down logs would be retained at existing levels. Cable logging systems and tractor logging systems would be used from existing roads, roads to be constructed and an approved skid trail network. Approximately 0.3 mile of temporary road would be constructed and obliterated upon completion of harvest activities. All compacted skid trails would be tilled with a winged subsoiler. No permanent road would be constructed.

In the commercial thinning area approximately 0.30 mile of temporary road would be constructed, and decommissioned after harvest.

The design features of the Proposed Action are described in the attached Ant Farm Environmental Assessment (OR 090-EA-99-16). Anticipated impacts to the environment are expected to be insignificant. The Proposal to harvest timber from Matrix lands in the Eugene District is in conformance with the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl* (April 1994), and the *Eugene District Record of Decision and Resource Management Plan* (June 1995).

The anticipated environmental effects contained in this EA are based on research, professional judgement, and experience of the Interdisciplinary (ID) team and Eugene District Resources staff. No significant adverse impacts are expected to (1) Threatened or Endangered species, (2) Flood plains or Wetlands/Riparian areas, (3) Wilderness Values, (4) Areas of Critical Environmental Concern, (5) Cultural Resources, (6) Prime or unique Farmland, (7) Wild and Scenic Rivers, (8) Air Quality, (9) Native American Religious Concerns, (10) Hazardous or Solid Waste, or (11) Water Quality.

DETERMINATION

On the basis of information contained in the EA, and all other information available to me, it is my determination that the Alternatives analyzed do not constitute a major Federal action affecting the quality of the human environment. Therefore, a new EIS or supplement to the existing EIS is unnecessary and would not be prepared for this proposed timber sale.

Approved by:_____ Date:_____
Field Manager, McKenzie Resource Area

Appendix A

AQUATIC CONSERVATION OBJECTIVES

1. Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations, and communities are uniquely adapted.

2. Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include flood plains, wetlands, upslope areas, headwater tributaries, and intact refugia. These lineages must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species.

3. Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.

4. Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain in the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.

5. Maintain and restore the sediment regime under which an aquatic ecosystem evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport.

6. Maintain and restore in stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing (i.e., movement of woody debris through the aquatic system). The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.

7. Maintain and restore the timing, variability, and duration of flood plain inundation and water table elevation in meadows and wetlands.

8. Maintain and restore the species composition and structural diversity of plant communities in riparian zones and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration, and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.

9. Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.

Appendix B

MANAGEMENT GUIDELINES FOR SURVEY AND MANAGE SPECIES

Bryophytes

Ulota megalospora (Protection buffer moss): According to the Bryophyte Management Recommendations, sufficient protection for this species is provided by sites in the riparian reserves, reserves set aside for mollusks, and areas withdrawn from the project area due to soils and wetlands issues, when *Ulota* is widespread and common as it is in the Lost creek watershed. The Management recommendations state that: "Sufficient protection may be provided in some areas by riparian reserves, late-successional reserves and administratively withdrawn areas. In areas where *Ulota megalospora* is poorly represented, especially for disjunct or localized populations, maintain habitat at known sites. The level of risk for this species is low, based on the relativity large number of known site and the apparent tolerance of this species to some degree of desiccation. Particularly, management for this species is not necessary at all sites where several populations occur nearby. " (1996 Draft Management Recommendations for Bryophytes, Installment 1, pp 18:3-6).

Ulota is proving to be more common than originally thought at the time the Forest Plan was written (pers. com. Judy Harpel, regional bryologist) and is being found throughout Western Oregon and Washington. As *Ulota* is widespread and common throughout the Lost Creek Watershed and McKenzie Area, no buffers are required for sites in this area. However, to insure the presence of this species, retain hardwoods in the project area. Retaining hardwoods would provide habitat, retain individual organisms and provide inoculum for *Ulota*. *Ulota* also occurs in Mollusk reserve areas, TPCC outs, riparian reserves and areas adjacent to the project area, which will provide sufficient protection for this species in this area.

Fungi

Sarcosoma mexicana, two sites of *Sarcosoma mexicana* (Protection Buffer, Fungi) were located. One site was adjacent to Unit 1 and is no longer part of the project area (site is located in an area removed from the project area as a special habitat area and for soils concerns). The second site is in Unit 2 and would require a 60 foot buffer.

Lichens

Lobaria pulmonaria, this lichen is a Component 4 species, as such the only requirements for this species is to "conduct general regional surveys". No management of this species is required. The species is common and seen in forests as young as 30 years old.

Mollusks

Four mollusk species that are defined as Survey and Manage species under the Northwest Forest Plan and the Eugene District Resource Management Plan were surveyed to current protocol within the proposed Ant Farm Timber Sale in 1998. Populations of blue-gray tail-dropper (*Prophysaon coeruleum*) and papillose tail-dropper (*Prophysaon dubium*) were located within proposed timber sale units. No Oregon megomphix (*Megomphix hemphilli*) or Crater Lake tightcoil (*Pristiloma arcticum crateris*) were located within proposed project units.

Current BLM management direction for these species is to follow local guidelines

until final interagency guidelines are in place. Currently the Eugene District Office follows Eugene District Interim Management Strategy for Three Survey-and-Manage Mollusks (Applegarth 1998). These guidelines are summarized below:

- Treatment Level 1

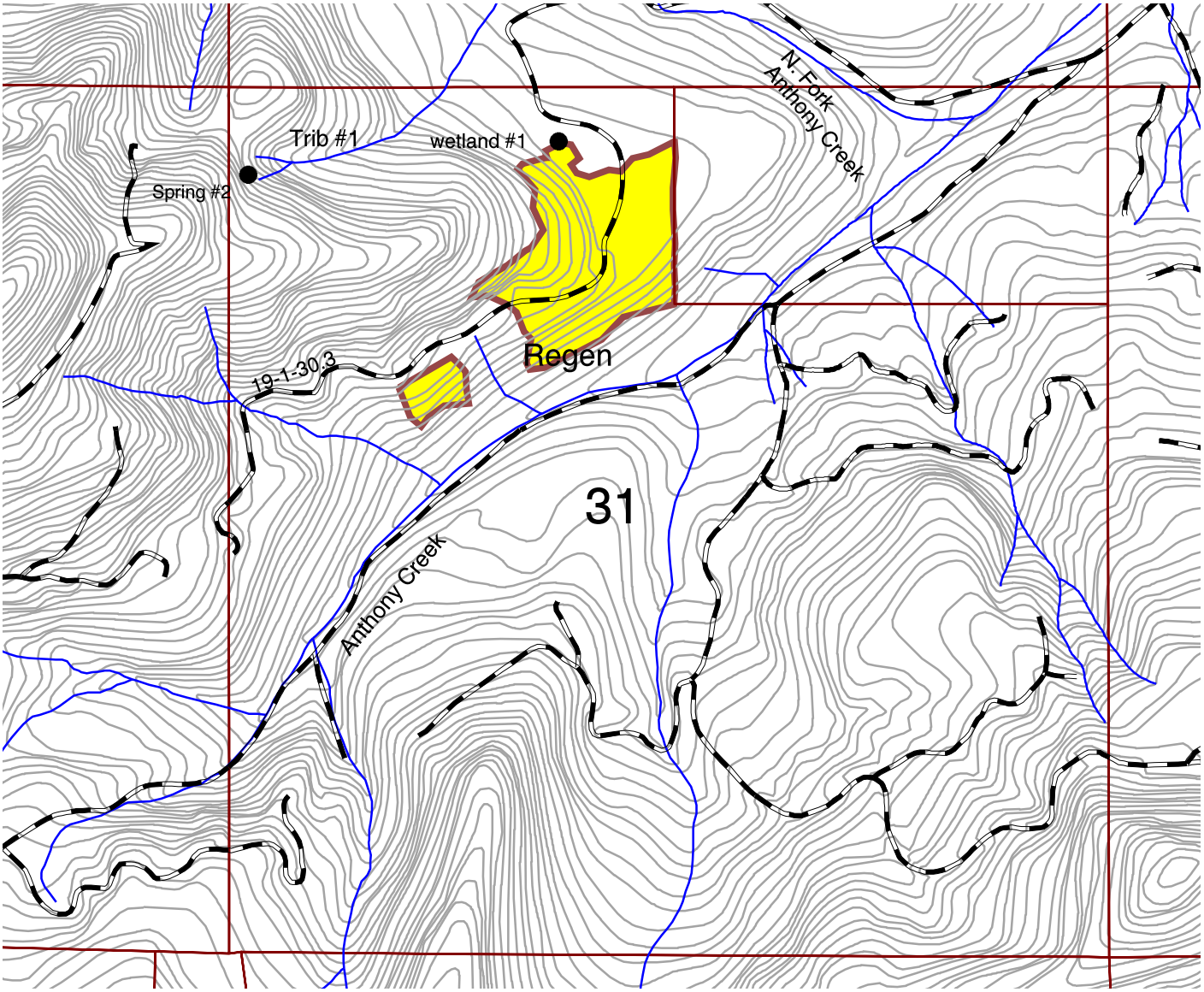
Where protocol surveys detect four or more Survey and Manage mollusk sites per 40 acres, no sites require protective buffers. RMP standards for down logs should be met or exceeded, broadcast burning should be avoided and prescribed fire should be kept to a minimum to meet resource objectives. To qualify for Treatment Level 1, sites need to be located by GPS or other method so they are accurate to within 10 meters. Although not required, sites with outstanding habitat features such as old big leaf maple and unusual concentrations of old down logs should be buffered if buffers don't seriously conflict with other concerns.

- Treatment Level 2

Where protocol surveys detect these mollusks at a rate between one and four locations per 40 acres, approximately half of the sites should be buffered. Buffers in regeneration harvest areas should have a radius of approximately 30 meters (100 ft) or an area of approximately 0.75 acres, or an area that represents a negotiated agreement. No activity will occur within these buffered areas.

- Treatment Level 3

Where protocol surveys detect these mollusks at a rate of one or fewer per 40 acres, all sites should be buffered. Size of buffered areas is the same as described in Treatment Level 2.



Area: 26 acres

1999 Harvest Area Map
Ant Farm, unit 1 - Regen

T.19S., 01 W, Sec 31

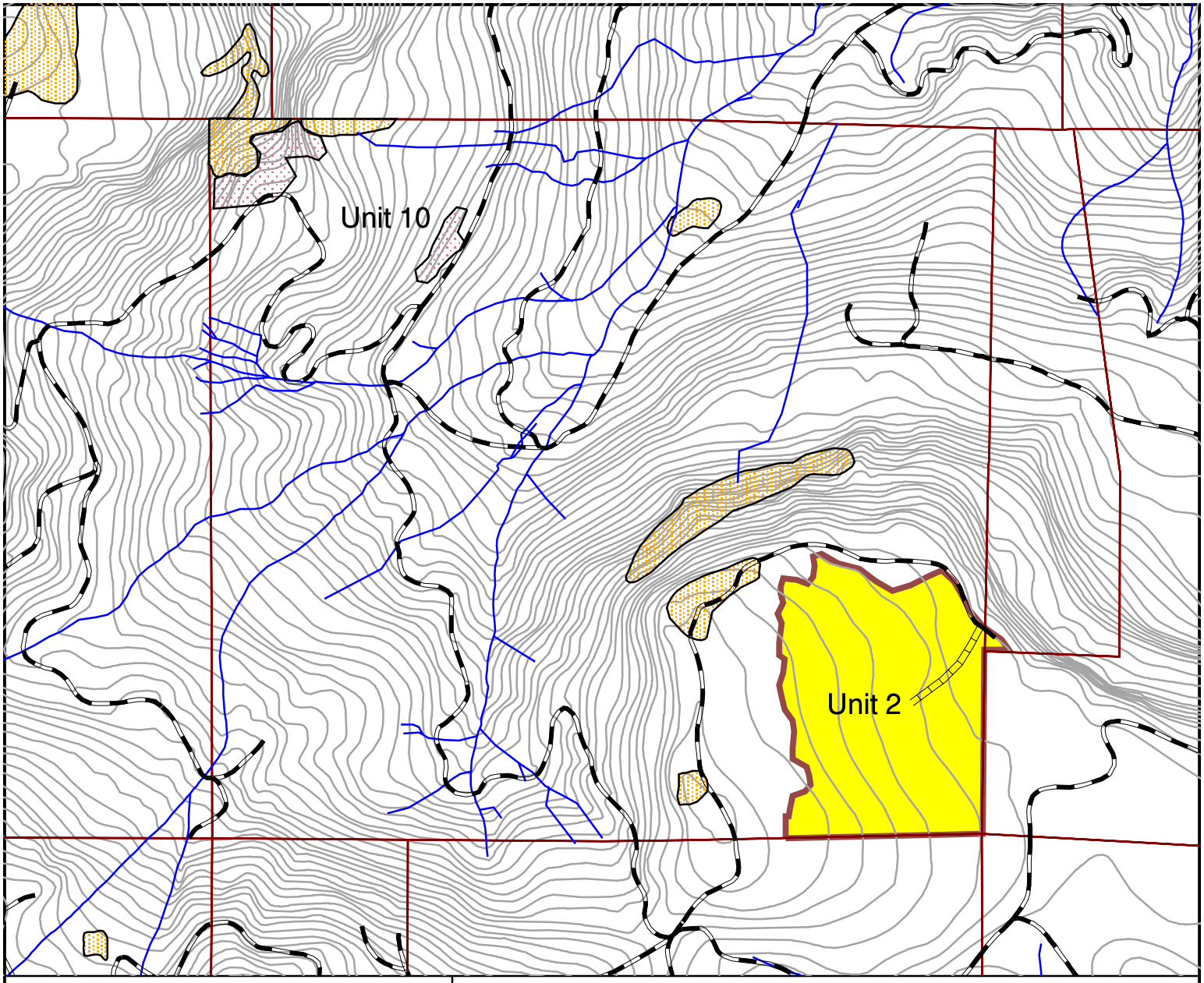
Roads
Streams
Section Lines
20' Contour interval
Project Area

500 0 500 1000 Feet

map scale 1"=1000'

06/24/98

N



Area:

52 acres

1999 Harvest Area Map
Ant Farm unit 2 - Thin

T.20S., R.02W. Sec 01
T.20S., R.01W. Sec 06

Roads
Spur
Additional tpcc
streams
Tpcc
Section lines/BLM ownership
20 'Contour intervals
Project Area

500 0 500 1000 Feet

map scale 1"=1000'

N

06/24/99